



# Fish Monitoring Factsheet

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Watershed Management Division biologists assess the ecological health of fish populations in running waters as a direct measurement of the aquatic biota which inhabit Vermont's surface waters. This is done to ensure that Vermont's goals for clean water are met.

## Indexes

Biotic indexes, comprised of several population characteristics (called metrics) measure the health of the fish species present. The community health or biological integrity of fish population is considered to be higher the more closely it resembles the natural condition.

- **MW IBI** – Mixed Water Index of Biotic Integrity – A combined set of metrics for cold or warm water sites, the MW IBI is specifically formulated for Vermont streams that support five or more native species. The MW IBI is derived from the following Metrics:
  - Number of species
  - Number of intolerant species
  - Number of benthic insect eating species
  - Proportion as White Suckers and Creek Chubs
  - Proportion as generalist feeders
  - Proportion as Insectivores
  - Proportion as top carnivores (predators)
  - Proportion with anomalies
  - Density
- **CW IBI** – Cold Water Index of Biotic Integrity – A combined set of metrics for cold water sites with less than five species. The CW IBI is derived from the following Metrics:
  - Number of intolerant species
  - Proportion as generalist feeders
  - Number of intolerant species
  - Number of top carnivores
  - Brook Trout density
  - Brook Trout year class presence

## Assessments

Assessments range from poor to excellent which correspond to a highly degraded to near natural conditions respectively. The minimum acceptable condition is good, which corresponds with the Vermont Water Quality Standards goals for Class B waters. An excellent assessment is consistent with Class A1 (ecological waters).

## Additional Information

A more detail description of the assessment methodology can be found here:  
[http://dec.vermont.gov/sites/dec/files/wsm/mapp/docs/bs\\_wadeablestream1b.pdf](http://dec.vermont.gov/sites/dec/files/wsm/mapp/docs/bs_wadeablestream1b.pdf)